

Genomics Committee Report  
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1. Collection of NSIP Sires with Progeny with phenotypic data
  - a. Surveying Groups for 2-3 month periods that work best
    - i. Rambouillet – August, September
    - ii. Clun Forest - October
    - iii. Suffolk – May, June, July
    - iv. Need – Targhee, Katahdin, Hampshire, Dorset, Shropshire, Polypay
    - v. For NAGP
      1. Need White Suffolk, Meat Merino, Ile de France
      2. Lewis – White Dorper from AU
  - b. NSIP Sires with progeny with phenotypes that have blood stored and not alive or currently not available
    - i. Maintain a spreadsheet/database with
      1. where DNA is
      2. name & ID stored under
      3. collection date
      4. tissue type (extracted??)
2. 15K LD SNP Chip to be released in the Spring
  - a. Probably \$35/sample at GeneSeek
    - i. GeneSeek will store data on SNP run
    - ii. Expect a report on the major genes and parentage.
  - b. Identified genes or sets of known markets - 16
    - i. Parentage (USMARC, AgRes, CSIRO), ii) TMEM154 (OPP, USMARC), iii, PRNP (scrapie, USMARC), iv. BCO2, v. Myostatin\_1, vi. GDF8, vii. GDF9, viii. Callipyge, ix. Carwell, x. Microphthalmia, xi. Mitochondria, xii. Spiderlamb, xiii. Booroola, xiv. horns RXFP2, xv. Inverdale, xvi. PTIX3
    - ii. 15K SNPs selected mostly by AU, NZ and a few proprietary SNPS by corporations
  - c. AU/NZ genomic scientists say it imputes well with 50K & 700k ovine SNP chips
    - i. Therefore if previous studies for a breed using 50K & 700k chip, can follow with cheaper 15K snp chip and correlate analyses between the 50/700K & 15K
  - d. Before of value, US needs chip verified for
    - i. Parentage, PRNP, TMEM154, Myostatin and Spider (for US sheep populations)
  - e. Other Values for NSIP
    - i. Any parentage work checks are important. Estimated that parentage for most livestock registries are 7-15%. With grannying, late sleepless nights in the lambing barn, no reason to believe that sheep errors are less than industry.
      1. would increase ability of EBVs to predict performance
    - ii. For the 15K SNPs to be of value, for most traits need large within breed populations (1000-4000) with phenotypic data. Except for the few identified genes listed above, chip won't be of value to non-NSIP sheep in the USA